

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Amend the paragraph on page 3, lines 24 thru page 4, lines 1-20 to read as follows:

The inventors have made active investigations to solve the above problems and finally have found an optical element as described below in completing the invention. Thus, the invention is as follows: 1. ~~An optical element, comprising:~~ comprises at least two laminated layers of at least one kind of reflective polarizer $[(a)]$; and at least one layer of at least one kind of retardation layer (b) for changing polarization properties laminated between the reflective polarizers $[(a)]$, the combination of the layers being designed so as to provide a incident-light transmittance depending on an incident angle of an incident light and designed such that a shielded light is not absorbed but reflected, wherein at least one layer of the reflective polarizer $[(a)]$ is a circular polarization type reflective polarizer (a1) capable of transmitting a certain circularly polarized light and selectively reflecting an oppositely circularly polarized light; at least one layer of the reflective polarizer $[(a)]$ is a linear polarization type reflective polarizer (a2) capable of transmitting one of perpendicular linearly polarized lights and selectively reflecting the other of the perpendicular linearly polarized lights; and the retardation layer (b) is a layer (b1) having a front (in the normal direction) retardation value of about $\lambda/4$ and having a retardation value of at least $\lambda/8$ with respect to an incident light inclined by at least 30° to the normal direction.

Amend the paragraph on page 4, lines 21-30 to read as follows:

~~2. The optical element above mentioned~~ 1. The invention further comprises an aspect,
wherein the retardation layer (b1) is a biaxial retardation layer having a front (in the normal direction) retardation value of about $\lambda/4$ and an Nz coefficient of at least 2.0, wherein the Nz coefficient is defined by the formula: $(n_x - n_z)/(n_x - n_y)$, where n_x and n_y are each principal in-plane refractive indices, and n_z is a principal refractive index in the thickness direction; and the biaxial retardation layer has a slow axis whose direction is set to make an angle of $45^\circ \pm 5^\circ$ (or $-45^\circ \pm 5^\circ$) with a polarization axis of the linear polarization type reflective polarizer (a2).

Amend the paragraph on page 5, lines 1-10 to read as follows:

~~3. The optical element above mentioned~~ 1. The invention further comprises an aspect,
wherein the retardation layer (b1) is a biaxial retardation layer having a front (in the normal direction) retardation value of about $\lambda/4$ and an Nz coefficient of at most -1.0, wherein the Nz coefficient is defined by the formula: $(n_x - n_z)/(n_x - n_y)$, where n_x and n_y are each principal in-plane refractive indices, and n_z is a principal refractive index in the thickness direction; and the biaxial retardation layer has a slow axis whose direction is set to make an angle of $45^\circ \pm 5^\circ$ (or $-45^\circ \pm 5^\circ$) with a polarization axis of the linear polarization type reflective polarizer (a2).

Amend the paragraph on page 5, lines 11-15 to read as follows:

~~4. The optical element above mentioned any one of 1 to 3~~ The invention further comprises an aspect, wherein the retardation layer (b1) is a stretched film comprising at least one material selected from polycarbonate, polysulfone, polyethylene, polypropylene, polyvinyl alcohol, cycloolefin polymers, and norbornene polymers.

Amend the paragraph on page 5, lines 16-19 to read as follows:

~~5. The optical element above mentioned 1 or 2~~ The invention further comprises an aspect, wherein the retardation layer (b1) is an oriented film comprising at least one material selected from polyamide, polyimide, polyester, polyetherketone, polyamideimide, and polyesterimide.

Amend the paragraph on page 5, line 20 thru page 6, lines 1-5 to read as follows:

~~6. The optical element above mentioned 1~~ The invention further comprises an aspect, wherein the retardation layer (b1) is a composite of $[\begin{smallmatrix} : \\ : \end{smallmatrix}]$ a layer (b11) having a front (in the normal direction) retardation value of about zero and having a retardation value of at least $\lambda/8$ with respect to an incident light inclined by at least 30° to the normal direction; and a uniaxial retardation layer (b12) having a front (in the normal direction) retardation value of about $\lambda/4$ and an Nz coefficient of 1.0, wherein the Nz coefficient is defined by the formula: $(n_x - n_z)/(n_x - n_y)$, where n_x and n_y are each principal in-plane refractive indices, and n_z is a principal refractive index in the thickness direction, and the uniaxial retardation layer (b12) has a slow axis whose

direction is set to make an angle of $45^{\circ} \pm 5^{\circ}$ (or $-45^{\circ} \pm 5^{\circ}$) with a polarization axis of the linear polarization type reflective polarizer (a2).

Amend the paragraph on page 6, lines 6-9 to read as follows:

~~7. The optical element above mentioned 6~~ The invention further comprises an aspect, wherein the layer (b11) having the retardation value has a fixed planar orientation of a cholesteric liquid crystal phase having a reflection wavelength band outside a visible light range.

Amend the paragraph on page 6, lines 10-14 to read as follows:

~~8. The optical element above mentioned 6 or 7~~ The invention further comprises an aspect, wherein the uniaxial retardation layer (b12) is a stretched film comprising at least one material selected from polycarbonate, polysulfone, polyethylene, polypropylene, polyvinyl alcohol, cycloolefin polymers, and norbornene polymers.

Amend the paragraph on page 6, lines 15-17 to read as follows:

~~9. The optical element above mentioned any one of 1 to 8~~ The invention further comprises an aspect, wherein the circular polarization type reflective polarizer (a1) comprises a cholesteric liquid crystal material.

Amend the paragraph on page 6, lines 18-20 to read as follows:

~~10. The optical element above mentioned any one of 1 to 9~~ The invention further comprises an aspect, wherein the linear polarization type reflective polarizer (a2) is a grid polarizer.

Amend the paragraph on page 6, lines 21-24 to read as follows:

~~11. The optical element above mentioned any one of 1 to 9~~ The invention further comprises an aspect, wherein the linear polarization type reflective polarizer (a2) is a multilayer thin film laminate comprising at least two layers of at least two materials different in refractive index.

Amend the paragraph on page 6, lines 25-27 to read as follows:

~~12. The optical element above mentioned 11~~ The invention further comprises an aspect, wherein the multilayer thin film laminate is a vapor-deposited multilayer thin film.

Amend the paragraph on page 6, line 28 thru page 7, line 1 to read as follows:

~~13. The optical element above mentioned any one of 1 to 9~~ The invention further comprises an aspect, wherein the linear polarization type reflective polarizer (a2) is a multilayer thin film laminate comprising at least two layers of at least two birefringent materials.

Amend the paragraph on page 7, lines 2-4 to read as follows:

~~14. The optical element above mentioned 13~~ The invention further comprises an aspect, wherein the multilayer thin film laminate is a stretched resin laminate comprising at least two layers of at least two birefringent resins.

Amend the paragraph on page 7, lines 5-8 to read as follows:

[[15.]] Further, the invention includes a [[A]] polarizing element, comprising: with the above mentioned optical element ~~above mentioned any one of 1 to 14;~~ and a dichroic linear polarizer adhered on the outside of the linear polarization type reflective polarizer (a2) of the optical element.

Amend the paragraph on page 7, lines 9-13 to read as follows:

[[16.]] Further, the invention includes a [[A]] polarizing element, comprising: with the above mentioned optical element ~~above mentioned any one of 1 to 14;~~ and a quarter wavelength plate and a dichroic linear polarizer which are adhered on the outside of the circular polarization type reflective polarizer (a1) of the optical element.

Amend the paragraph on page 7, lines 14-19 to read as follows:

[[17.]] Additionally, the invention includes the above-mentioned [[The]] polarizing element ~~above mentioned 16,~~ wherein the quarter wavelength plate has an Nz coefficient of from -2.0 to -1.0, wherein the Nz coefficient is defined by the formula: $(n_x - n_z)/(n_x - n_y)$, where n_x and n_y are each principal in-plane refractive indices, and n_z is a principal refractive index in the thickness direction.

Amend the paragraph on page 7, lines 20-24 to read as follows:

[[18.]] Additionally, the invention includes a [[A]] lighting device, comprising[[:]] a surface light source; a reflective layer provided on the back side of the surface light source; and the above mentioned optical element~~above mentioned any one of 1 to 14~~ or the above mentioned polarizing element~~above mentioned any one of 15 to 17~~ provided on the front side of the surface light source.

Amend the paragraph on page 7, lines 25-27 to read as follows:

[[19.]] Additionally, the invention includes a [[A]] liquid crystal display, comprising[[:]] the above mentioned lighting device~~above mentioned 18~~; and a liquid crystal cell provided on a light-emitting side of the lighting device.

Amend the paragraph on page 8, line 28 thru page 8, lines 1-2 to read as follows:

[[20.]] Additionally, the invention includes a [[A]] wide viewing angle liquid crystal display, comprising[[:]] the above mentioned liquid crystal display~~above mentioned 19~~; and a wide viewing angle film that is placed on the view side with respect to the liquid crystal cell in order to diffuse light passing through the liquid crystal cell to the view side.

Amend the paragraph on page 8, lines 3-7 to read as follows:

[[21.]] Additionally, the invention includes the above mentioned[[The]] wide viewing angle liquid crystal display~~above mentioned 20~~, wherein the wide viewing angle film comprises a diffusing layer exhibiting substantially no back scattering or depolarization.

(Effect of the Invention)

Amend the paragraph on page 8, line 8 thru page 9, 1-6 to read as follows:

Natural light emitted from a light source is separated by a first reflective polarizer ~~[(a)]~~ (a1) into transmitted polarized light and reflected polarized light. The transmitted polarized light in and near the normal direction can pass through a second reflective polarizer ~~[(a)]~~ (a1) as it is, because the retardation layer ~~[(b)]~~ (b11) provided has a front (in the normal direction) retardation of about zero while having a retardation of at least $\lambda/8$ with respect to incident light inclined by at least 30° to the normal direction. At angles inclined to the normal direction, the polarization state is changed by the retardation effect so that the increased polarized light components are reflected by the second reflective polarizer ~~[(a)]~~ (a1). Particularly when the retardation is approximately $\lambda/2$, the lights are effectively reflected. The reflected polarized lights are retarded again to have a changed polarization state in such a manner that they can pass through the first reflective polarizer ~~[(a)]~~ (a1) and thus allowed to return to the light source unit through the first reflective polarizer. The reflected lights from the first and second reflective polarizers ~~[(a)]~~ (a1) is depolarized by a reflective diffusing plate or the like placed under the light source, and the direction of the reflected lights is also changed by the reflective diffusing plate or the like. Part of the returning lights undergo repeated reflection until they become polarized lights in and near the normal direction, which can pass through the reflective polarizer, and thus they can contribute to an enhancement in brightness.

Amend the paragraph on page 9, lines 7-16 to read as follows:

When a circular polarization type reflective polarizer (a1) is used as the reflective polarizer $[(a)]$, the retardation layer $[(b)]$ may be a layer (b11, hereinafter also referred to as C-plate) having a front (in the normal direction) retardation of about zero and having a retardation value of at least $\lambda/8$ with respect to incident light inclined by at least 30° to the normal direction, which can produce polarization conversion regardless of the azimuth angle. When the C-plate has a retardation of approximately $\lambda/2$ with respect to obliquely incident light, the incident light is just converted into oppositely circularly polarized light.

Amend the paragraph on page 9, line 17 thru page 10, lines 1-12 to read as follows:

When a linear polarization type reflective polarizer (a2) is used as the reflective polarizer $[(a)]$, and a C-plate is used alone as the retardation layer (b), the optical axis with respect to incident lights in directions inclined to the C-plate can be always perpendicular to the light direction so that the retardation effect is not produced and that polarization conversion is not provided.